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WHAT IS CLAIMED IS:

1. An xposur method in which a s cond obj ct is xposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising: dividing the space between said projection system and said second object into a first space on the side of said projection system and a second space on the side of said second object and providing, in the boundary portion between said first and second spaces, an aperture portion at a region through which at least said exposure beam passes; and supplying a first gas that transmits said exposure beam to said first space side, wherein said first gas' contamination degree of impurities that absorb said exposure beam is smaller than that of a second gas of said second space side.

- 2. An exposure method according to claim 1, wherein said first gas is blown in a single direction in said first space.
- 3. An exposure method according to claim 1, wherein said exposure beam is a vacuum ultraviolet light beam having a wavelength of 180 nm or less, and said first or second gas that transmits said exposure beam is a rare gas or a nitrogen gas.
- 4. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising: disposing a stage holding said first object or said second object and moving on a base member in a space supplied with a third gas that transmits said exposure beam;

floating said stage on said bas member in a differ ntial exhaust system by blowing a fourth gas and sucking said fourth

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gas; and

setting th p rmissible absorb acy limits of said fourth gas relative to said exposure beam higher than that of said third gas.

- 5 5. An exposure method according to claim 4, wherein said third gas and said fourth gas are different gases from each other.
 - 6. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising: measuring the position of said first object or said second object relative to a predetermined reference member by illuminating a stage moving with said first object or said second object and said reference member with a measurement beam
 - making both of the optical paths of said measurement beam and said reference beam to be gaseous atmospheres each having about the same contamination degree of impurities that absorb said exposure beam.

and a reference beam, respectively; and

7. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising: dividing the space between said projection system and said second object into a first space on the side of said projection system and a second space on the side of said second object and providing, within the boundary portion between said first and second spaces, an aperture portion at a region through which at 1 ast said xposur beam passes;

blowing a gas that transmits said xposure light to said first

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spac ; and

xhausting, via said gas blown in said first spac , a substanc generated from said second object by the illumination thereof with said exposure beam from the optical path of said exposure beam.

8. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising: dividing the space between said projection system and said second object into a first space on the side of said projection system and a second space on the side of said second object and providing, within the boundary portion between said first and second spaces, an aperture at a region through which a detection beam for detecting the position of said first object or said second object passes; and

supplying a gas through which said exposure beam passes to said first space.

- 9. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising: dividing the space between said projection system and said second object into a first space on the side of said projection system and a second space on the side of said second object; and
- 25 setting the contamination degree of impurities of said first space smaller than that of said second space.
 - 10. An exposure apparatus in which a second obj ct is xpos d, via a proj ction system, with an exposur b am that has passed

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a patt rn of a first object, said exposur apparatus comprising:
an ap rtur plate which is dispos d betwe n said proj ction
system and said second object and on which an aperture for making
said exposure beam pass through is formed;

a first gas supply mechanism that supplies a first gas that transmits said exposure beam to a first space between said aperture plate and said projection system; and

an environment control mechanism that controls the environment of a second gas which is supplied to a second space between said aperture plate and said second object and transmits said exposure beam, wherein said environment control mechanism controls the contamination degree of impurities of said second gas so as to be different from that of said first gas.

- 11. An exposure apparatus according to claim 10,
- wherein a chamber that substantially hermetically seals, except for said aperture of said aperture plate, said second space enclosing said second object is provided;

wherein said environment control mechanism has a second gas supply mechanism that supplies a second gas that transmits said exposure beam into said chamber;

wherein said first gas supply mechanism supplies said first gas in a single direction in said first space; and wherein the contamination degree of impurities that absorb said exposure beam of said first gas is smaller than that of said second gas.

12. An exposure apparatus in which a second object is exposed, via a proj ction system, with an exposure beam that has passed a pattern of a first object, said exposur apparatus comprising:

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a stag that holds said first object or said s cond obj ct and mov s on a bas m mb r;

a chamber that substantially hermetically seals a space enclosing said stage;

a gas supply device that supplies a third gas that transmits said exposure beam into said chamber;

an air bearing device that float said stage on said base member in a differential exhaust system by blowing a fourth gas and sucking said fourth gas; and

- a setting device that set the permissible absorbency limits of said fourth gas relative to said exposure beam higher than that of said third gas.
 - 13. An exposure apparatus in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure apparatus comprising: a stage that moves with said first object or said second object; a reference member that is stationary relative to said projection system;

an interferometer that measures the position of said first object or said second object relative to said reference member by illuminating said stage and said reference member with a measurement beam and a reference beam, respectively; and a gas supply device that supplies each of gases each having about the same contamination degree of impurities that absorb said exposure beam to each of the optical paths of said measurement beam and said reference beam.

14. An xposur apparatus in which as cond obj ct is xposed, via a proj ction syst m, with an xposure beam that has pass d

a patt rn of a first object, said xposur apparatus comprising:
an aperture plate which is dispos d b tw n said projection
system and said second object and on which an aperture for making
a detection beam for detecting the position of said first object
or said second object pass through is formed; and
a first gas supply mechanism that supplies a first gas that
transmits said exposure beam to a first space between said
aperture plate and said projection system.

15. A device manufacturing method which includes a process for transferring a device pattern onto a workpiece, wherein said device pattern is transferred on said workpiece using an exposure method according to claim 1.